

10/593289 PURIFICATION OF CH2Cl2

=> d his

(FILE 'HOME' ENTERED AT 19:19:06 ON 13 NOV 2007)

FILE 'REGISTRY' ENTERED AT 19:19:29 ON 13 NOV 2007

L1 STRUCTURE UPLOADED  
L2 50 S L1 SSS FULL  
L3 0 S L2 AND PURIFICATION

FILE 'HCAPLUS' ENTERED AT 19:20:40 ON 13 NOV 2007

L4 240 S L2 AND PURIFICATION  
L5 0 S L4/PREP  
L6 14 S L2 AND MOLECULAR (A) SIEVE

=> S L1 AND PURIFICATION

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...  
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 19:27:13 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 6366 TO ITERATE

31.4% PROCESSED 2000 ITERATIONS 3 ANSWERS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 122537 TO 132103  
PROJECTED ANSWERS: 5 TO 375

L7 3 SEA SSS SAM L1

L8 3 L7

345374 PURIFICATION  
1117 PURIFICATIONS  
346147 PURIFICATION  
(PURIFICATION OR PURIFICATIONS)  
313672 PURIFN  
238 PURIFNS  
313776 PURIFN  
(PURIFN OR PURIFNS)  
508299 PURIFICATION  
(PURIFICATION OR PURIFN)

L9 0 L8 AND PURIFICATION

=> LOG Y

COST IN U.S. DOLLARS

SINCE FILE  
ENTRY

TOTAL  
SESSION

10/593289 PURIFICATION OF CH<sub>2</sub>Cl<sub>2</sub>

|  |            |         |
|--|------------|---------|
| FULL ESTIMATED COST                        | 2.60       | 248.98  |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL   |
|  | ENTRY      | SESSION |
| CA SUBSCRIBER PRICE                        | 0.00       | -10.92  |

STN INTERNATIONAL LOGOFF AT 19:27:46 ON 13 NOV 2007

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSFTAMLL1621

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\*\*\*\*\* Welcome to STN International \*\*\*\*\*

NEWS 1 Web Page for STN Seminar Schedule - N. America  
 NEWS 2 LMEADLINE coverage updated  
 NEWS 3 JUL 02 SCISEARCH enhanced with complete author names  
 NEWS 4 JUL 02 CHEMCATS accession numbers revised  
 NEWS 5 JUL 02 CA/Caplius enhanced with utility model patents from China  
 NEWS 6 JUL 16 Caplius enhanced with French and German abstracts  
 NEWS 7 JUL 18 CA/Caplius patent coverage enhanced  
 NEWS 8 JUL 26 USPATFULL/USPAT2 enhanced with IPC reclassification  
 NEWS 9 JUL 30 USGENE now available on STN  
 NEWS 10 AUG 06 CAS REGISTRY enhanced with new experimental property tags  
 NEWS 11 AUG 06 FSTA enhanced with new thesaurus edition  
 NEWS 12 AUG 13 CA/Caplius enhanced with additional kind codes for granted patents  
 NEWS 13 AUG 20 CA/Caplius enhanced with CAS indexing in pre-1907 records  
 NEWS 14 AUG 27 Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB  
 NEWS 15 AUG 27 USPATOLD now available on STN  
 NEWS 16 AUG 28 CAS REGISTRY enhanced with additional experimental spectral property data  
 NEWS 17 SEP 07 STN Anavist, Version 2.0, now available with Derwent World Patents Index  
 NEWS 18 SEP 13 FORIS renamed to SOPIS  
 NEWS 19 SEP 13 INPADOCDB enhanced with monthly SDI frequency  
 NEWS 20 SEP 17 CA/Caplius enhanced with printed CA page images from 1967-1998  
 NEWS 21 SEP 17 Caplius coverage extended to include traditional medicine patents  
 NEWS 22 SEP 24 EMBASE, EMBAL, and LEMBASE reloaded with enhancements  
 NEWS 23 OCT 02 CA/Caplius enhanced with pre-1907 records from Chémisches Zentralblatt  
 NEWS 24 OCT 19 BEILSTEIN updated with new compounds

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2.  
 CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.03c(JP),  
 AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

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\*\*\*\*\* STN Columbus \*\*\*\*\*

FILE 'HOME' ENTERED AT 19:19:06 ON 13 NOV 2007

=&gt; fil reg

COST IN U.S. DOLLARS

| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|
| 0.21             | 0.21          |

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 19:19:29 ON 13 NOV 2007  
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STRUCTURE FILE UPDATES: 12 NOV 2007 HIGHEST RN 953132-99-5  
 DICTIONARY FILE UPDATES: 12 NOV 2007 HIGHEST RN 953132-99-5

New CAS Information Use Policies. enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JUNE 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

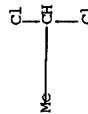
=> Uploading C:\Program Files\Stnexp\Queries\2007cases\10593289\structuretext search PNG.str

L1 STRUCTURE UPLOADED

=&gt; d l1

L1 HAS NO ANSWERS

L1 STR



10/593289 PURIFICATION OF CH2CL2

Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss full  
FULL SEARCH INITIATED 19:20:07 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 127335 TO ITERATE  
100.04 PROCESSED 127335 ITERATIONS  
SEARCH TIME: 00.00.01  
50 ANSWERS

L2 50 SEA SSS FUL L1

=> s l2 and purification  
18 PURIFICATION  
L3 0 L2 AND PURIFICATION

=> s l1 and purification  
COMBINATION OF STRUCTURE AND TEXT TERMS NOT VALID  
The query entered contains both search terms created by  
structure-building or screen commands and text search terms. L#s  
created via the STRUCTURE or SCREEN commands must be searched in the  
structures files separately from text terms or profiles. The L#  
answer sets from structure searches can be used in crossover searches  
and can be combined with text terms.

=> file heaplu

COST IN U.S. DOLLARS

| SINCE FILE | TOTAL   |
|------------|---------|
| ENTRY      | SESSION |
| 177.50     | 177.71  |

FULL ESTIMATED COST

FILE 'HCAPLUS' ENTERED AT 19:20:40 ON 13 NOV 2007  
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FILE COVERS 1907 - 13 Nov 2007 VOL 147 ISS 21  
FILE LAST UPDATED: 12 Nov 2007 (20071112/ED)

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This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> s l2 and purification  
3071 L2  
345374 PURIFICATION  
1117 PURIFICATIONS

Page 3 11/13/07

10/593289 PURIFICATION OF CH2CL2

346147 PURIFICATION  
(PURIFICATION OR PURIFICATIONS)  
313672 PURIFN  
238 PURIFNS  
313776 PURIFN  
(PURIFN OR PURIFNS)  
508299 PURIFICATION  
(PURIFICATION OR PURIFN)  
L4 240 L2 AND PURIFICATION

=> s l4/prep  
3071 L2  
9798 PURIFICATION/CT  
448865 PREP/RL  
1 PURIFICATION/PREP  
(PURIFICATION/CT (L) PREP/RL)  
L5 0 (L2 AND PURIFICATION/PREP)

=> dhis  
THIS IS NOT A RECOGNIZED COMMAND  
The previous command name entered was not recognized by the system.  
For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> d his

(FILE 'HOME' ENTERED AT 19:19:06 ON 13 NOV 2007)

FILE 'REGISTRY' ENTERED AT 19:19:29 ON 13 NOV 2007  
STRUCTURE UPLOADED  
L1 50 S L1 SSS FULL  
L2 0 S L2 AND PURIFICATION  
L3

FILE 'HCAPLUS' ENTERED AT 19:20:40 ON 13 NOV 2007  
240 S L2 AND PURIFICATION  
L4 0 S L4/PREP  
L5

=> s l2 and molecular (a) sieve  
3071 L2  
1243751 MOLECULAR  
81 MOLECULARS  
1243814 MOLECULAR  
(MOLECULAR OR MOLECULARS)  
2553412 MOL  
688218 MOLS  
2926339 MOL  
(MOL OR MOLS)

3430633 MOLECULAR  
(MOLECULAR OR MOL)  
38666 SIEVE  
22036 SIEVES  
49607 SIEVE  
(SIEVE OR SIEVES)

L6 29398 MOLECULAR (A) SIEVE  
14 L2 AND MOLECULAR (A) SIEVE

=> d 1-14 ibib abs

Page 4 11/13/07

L6 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2005:1171057 HCAPLUS  
DOCUMENT NUMBER: 143:442425

TITLE: Method for the adsorptive removal of stabilizers from 1,1-dichloroethane and a fluorination process for production of 1,1-difluoroethane from it

INVENTOR(S): Ohno, Hiromoto

PATENT ASSIGNER(S): Showa Denko K.K., Japan

SOURCE: PCT Int. Appl., 22 Pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.            | KIND   | DATE     | APPLICATION NO.  | DATE       |
|-----------------------|--|----------|------------------|------------|
| WO 2005102970         | A1   | 20051103 | WO 2005-JP7492   | 20050413   |
| W:                    | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HK, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |          |                  |            |
| RW:                   | BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AE, BY, BG, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GN, GW, ML, MR, NE, SN, TD, TG   |          |                  |            |
| JP 2005336164         | A  | 20051208 | JP 2005-113555   | 20050411   |
| CN 1946658            | A  | 20070411 | CN 2005-80013078 | 20050413   |
| US 2007197843         | A1   | 20070823 | US 2006-593289   | 20060918   |
| KR 2007002022         | A  | 20070104 | KR 2006-719583   | 20060922   |
| PRIORITY APPL. INFO.: |  |          | JP 2004-129917   | A 20040426 |
|                       |  |          | US 2004-567811P  | P 20040505 |
|                       |  |          | WO 2005-JP7492   | W 20050413 |

AB 1,1-Dichloroethane containing a compound having a nitro group and/or a hydroxyl group as a stabilizer is brought into contact with a zeolite having an average pore size of 3.4-11 Å and/or a carbonaceous adsorbent having an average pore size of 3.4-11 Å in a liquid phase and the stabilizer contained in 1,1-dichloroethane is efficiently removed by a simple and convenient method and 1,1-difluoroethane can be economically produced.

REFERENCE COUNT: 2  
THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2002:735266 HCAPLUS  
DOCUMENT NUMBER: 138:94314

TITLE: Ambient level volatile organic compound (VOC) monitoring using solid adsorbents - Recent US EPA studies

AUTHOR(S): McCleenny, William A.; Oliver, Karen D.; Jacumin, Henry H., Jr.; Daughtrey, E. Hunter, Jr.

CORPORATE SOURCE: National Exposure Research Laboratory, Environmental Protection Agency, Research Triangle Park, NC, 27711, USA

SOURCE: Journal of Environmental Monitoring (2002), 4(5), 695-705

L6 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1998:587247 HCAPLUS  
DOCUMENT NUMBER: 129:320735

TITLE: Study on the determination of volatile organic compounds by solid adsorbent adsorption and gas chromatography/mass spectrometry

AUTHOR(S): Izumikawa, Sekio; Hoshi, Junya

CORPORATE SOURCE: The Tokyo Metropolitan Res. Inst. for Environ. Protection, Japan

SOURCE: Zenkoku Kogaiken Kaishi (1998), 23(2), 66-75

CODEN: ZKKADQ; ISSN: 0385-1028

PUBLISHER: Zenkoku Kogaiken Kaishi Jimukyoku

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB The determination of volatile organic compounds in air by solid adsorbent adsorption-solvent extraction-gas chromatog. mass spectrometry showed that when C mol. sieve collection tubes were used the recovery of halogen compounds and hydrocarbons were >70%, but for some esters recovery was near zero.

REFERENCE COUNT: 20  
THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1998:144575 HCAPLUS  
DOCUMENT NUMBER: 128:265538

TITLE: Study on the determination of volatile organic compounds by solid adsorbent adsorption and gas chromatography/mass spectrometry

AUTHOR(S): Izumikawa, Sekio; Hoshi, Junya

CORPORATE SOURCE: The Tokyo Metropolitan Res. Inst. for Environ. Protection, Japan

SOURCE: Zenkoku Kogaiken Kaishi (1998), 23(2), 66-75

CODEN: ZKKADQ; ISSN: 0385-1028

PUBLISHER: Zenkoku Kogaiken Kaishi Jimukyoku

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

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THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

**TITLE:** On-site sampling for volatiles and pesticides using solid-phase microextraction

**AUTHOR(S):** Shirey, Robert; Mani, Venkatachalam; Mindrup, Raymond

**CORPORATE SOURCE:** SPME, Bellefonte, PA, 16823-0048, USA

**SOURCE:** American Environmental Laboratory (1998), 10(2), 21-22

**CODEN:** AELAEI; ISSN: 1051-2306

**PUBLISHER:** International Scientific Communications, Inc.

**LANGUAGE:** English

**DOCUMENT TYPE:** Journal

**AB** A portable field sampling apparatus that uses solid-phase microextraction (SPME) provides a simple, reliable alternative for environmental sample collection and shipment. The Carboxen/polydimethylsiloxane (PDMS) fiber retains volatile organic compounds effectively. Losses of chlorinated pesticides or organophosphorus pesticides were minimal after 3 days of storage on 100-µm PDMS-coated SPME fiber at 4°.

**L6 ANSWER 5 OF 14** HCAPLUS COPYRIGHT 2007 ACS on STN

**ACCESSION NUMBER:** 1997:766147 HCAPLUS

**DOCUMENT NUMBER:** 128:52264

**TITLE:** Evaluation of thermal desorption sampling tubes for

**EPA Method TO-17**

**AUTHOR(S):** Howe, Gary B.; Javenty, R. K. M.; DeGraff, Irene D.;

Betz, William R.; Tipler, Andrew; Woolfenden,

Elizabeth

**CORPORATE SOURCE:** Research Triangle Inst., Research Triangle Park, NC,

27709, USA

**SOURCE:** Measurement of Toxic and Related Air Pollutants,

Proceedings of a Specialty Conference, Research

Triangle Park, N. C., Apr. 29-May 1, 1997 (1997),

Volume 1, 269-280. Air & Waste Management

Association: Pittsburgh, Pa.

**CODEN:** 65JQAY

**CONFERENCE**

**LANGUAGE:** English

**AB** The US EPA Compendium Method TO-14, which involves collection of whole air samples in passivated canisters followed by gas chromatog. anal., continues to be a widely used approach for monitoring volatile organic compounds (VOCs) in ambient air. An alternative to TO-14 has recently been promulgated by the US EPA (Compendium Method TO-17). This new method involves pumping ambient air through a sorbent tube to collect VOCs and anal. by thermal desorption and capillary gas chromatog. EPI has evaluated two different multiadsorbent tubes for use in Method TO-17. Both tube types were tested by sampling a 39-component mixture of TO-14 compounds. In addition, one of the tube types was tested with an 18-component mixture of polar organic compounds. The nominal concentration of each compound was 10 ppb

in nitrogen. The relative recovery and sorbent tube breakthrough were evaluated for each compound at 3 different sample vols. and at different relative humidities. Sample anal. was performed by automated thermal desorption with capillary gas chromatog. and flame ionization detection.

**L6 ANSWER 6 OF 14** HCAPLUS COPYRIGHT 2007 ACS on STN

**ACCESSION NUMBER:** 1997:759572 HCAPLUS

**DOCUMENT NUMBER:** 128:15864

**TITLE:** VOST charcoal specification study

**AUTHOR(S):** Fuerst, Robert G.; Foster, A. L.; Bursey, J. T.

**CORPORATE SOURCE:** U. S. Environmental Protection Agency Research

Triangle Park, NC, 27711, USA

**SOURCE:**

Measurement of Toxic and Related Air Pollutants, Proceedings of an International Specialty Conference, Research Triangle Park, N. C., May 7-9, 1996 (1996), 280-284. Air & Waste Management Association: Pittsburgh, Pa.

**CODEN:** 65IHA2

**CONFERENCE**

**LANGUAGE:** English

**AB** The volatile organic sampling train (VOST) methodol. incorporates SW-846 sampling Method 0030 and SW-846 anal. Method 5040 or 5041. VOST is currently one the leading methods. available for the sampling and anal. of volatile principal organic hazardous constituents (POHCs) and products of incomplete combustion (PICs) from stationary sources at very low levels. However, revisions to the original method are necessary to maintain VOST as a viable regulatory tool. Method 0030 states that the VOST sampling tube set must consist of a front tube containing Tenax and a rear tube containing

sequential bed of Tenax and SKC Lot 104 petroleum-based charcoal "or equivalent". However, the method does not identify a specific equivalent, nor does the method supply the performance specifications which would allow determination of an equivalent Lot 104 petroleum-based charcoal is no longer available and has not been available for several years. Labs. are presently using a wide range of substitutes, usually coconut-based charcoal, and there is a wide range of performance from batch to batch of charcoal in one laboratory and from laboratory to laboratory to provide performance

specifications and identify a replacement for SKC Lot 104 charcoal, a VOST charcoal specification study was initiated. The following carbon-based candidate sorbents were considered: Tenax-GR (a graphitized Tenax); a Petroleum-based Charcoal; Ambersorb XE-340 (hydrophobic carbonized resin bead); Anasorb 747 (beaded active carbon with very regular pore size); Carbosieve S-III (carbon mol. sieve); and a Beaded Activated Charcoal (BAC) (with a very regular pore size). The results indicated that Tenax-GR showed significantly poorer performance than the other candidates in preliminary exptl. results. Ambersorb did not retain the gaseous volatile organic compounds, tested as well as the others and recovery of vinyl chloride was very low at all levels of spiking. Carbosieve was eliminated as a candidate replacement because of cost and handling problems. The petroleum-based charcoal was eliminated because of difficulties in handling a finely-divided powder. The availability of Anasorb 747 proved to be the deciding factor between it and the BAC. Performance, cost, ease of handling, and plentiful supply make Amasorb 747 a good choice for replacement of SKC Lot 104.

**L6 ANSWER 7 OF 14** HCAPLUS COPYRIGHT 2007 ACS on STN

**ACCESSION NUMBER:** 1997:376693 HCAPLUS

**DOCUMENT NUMBER:** 127:103678

**TITLE:** Silicalite as a sorbent for solid-phase extraction

**AUTHOR(S):** Mayer, Dianna L.; Fritz, James S.

**CORPORATE SOURCE:** Department of Chemistry, Iowa State University and

Ames Laboratory, US Dept. of Energy, Ames, IA, 50011,

USA

**SOURCE:** Journal of Chromatography, A (1997), 771(1 + 2), 45-53

**CODEN:** JCRABY; ISSN: 0021-9673

**PUBLISHER:** Elsevier

**DOCUMENT TYPE:** Journal

**LANGUAGE:** English

AB A mol. sieve known as Silicalite was used as a sorbent for solid-phase extraction (SPE) of organic analytes from aqueous samples. Silicalite

contains an intricate system of channels approx. 6 Å in diameter, but unlike most other mol. sieves the channels of silicalite are able to retain organic compds. by hydrophobic attraction. Small hydrophilic compds., such as the lower alcs., aldehydes, esters and ketones, are well extracted by silicalite, thus adding a valuable new capability to conventional SPE. Extensive data are presented to define the scope and limitations of silicalite for SPE. Breakthrough curves were used for several compds. to determine their loading capacity on silicalite. REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1996:467328 HCAPLUS  
DOCUMENT NUMBER: 125:131304  
TITLE: Methods for analysis of volatile organic compounds in water and air

INVENTOR(S): Lansbarkis, James R.; Gingrich, Jon S.; Lindberg, Catherine L.

PATENT ASSIGNER(S): UOP Inc., USA

SOURCE: U.S., 6 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|--|------|----------|-----------------|----------|
| US 5536301   | A    | 19960716 | US 1995-411097  | 19950327 |
| PRIORITY APPLN. INFO.: US 1995-411097 19950327   |      |          |                 |          |
| AB The purge and trap procedure commonly used for anal. of volatile organic compds. in water or air can be significantly improved using traps employing mol. sieves as adsorbents. Silicalite and potassium-exchanged dealuminated zeolite Y form an effective mixture |      |          |                 |          |

L6 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1995:730053 HCAPLUS  
DOCUMENT NUMBER: 123:122063  
TITLE: Removal of chlorinated hydrocarbons from aqueous effluent streams using hydrophobic zeolite molecular sieves

AUTHOR(S): Hampson, J. A.; Gladen, L. F.  
CORPORATE SOURCE: Dep. Chem. Eng., Univ. Cambridge, Cambridge, CB2 3RA, UK

SOURCE: IChemE Res. Event--Eur. Conf. Young Res. Chem. Eng., 1st (1995), Volume 1, 369-71. Inst. Chem. Eng.: Rugby, UK.

CODEN: 610UA9

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Aqueous phase adsorption isotherms of five common Volatile Organic Compds. (VOCs) on three ZSM-5 zeolite samples of varying Si/Al ratios are presented. The adsorption isotherms were measured at 303 K and bulk aqueous concentration of up to

300 ppm. The isotherms were measured using the bottle point method. Thermogravimetric Anal. was used to measure the equilibrium water content of the zeolite samples at a constant relative humidity. The water content gives a measure of the hydrophobicity of the zeolite samples which has been compared against the uptake behavior of the various VOCs.

L6 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1992:403735 HCAPLUS  
DOCUMENT NUMBER: 117:3735  
TITLE: Ion-trap detection of volatile organic compounds in alveolar breath

AUTHOR(S): Phillips, Michael; Greenberg, Joel  
CORPORATE SOURCE: Dep. Med., St. Vincent's Med. Cent., Richmond, Staten Island, NY, 10310, USA

SOURCE: Clinical Chemistry (Washington, DC, United States) (1992), 38(1), 60-5

CODEN: CLCHAU; ISSN: 0009-9147

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Method is described for the collection and microanal. of the volatile organic compds. in human breath. A transportable apparatus supplied with purified air and samples their alveolar breath; the volatile organic compds. are captured in an adsorptive trap containing activated carbon and mol. sieve. The sample is thermally desorbed from the trap in an automated microprocessor-controlled device, concentrated by two-stage cryofocusing, and assayed by gas chromatog. with ion-trap detection. Compds. are identified by reference to a computer-based library of mass spectra with subtraction of the background component present in the inspired air. This device was used to study 10 normal subjects and to determine the relative abundance of the volatile organic compds. in their alveolar breath. The breath-collecting apparatus was convenient to operate and was well tolerated by human volunteers.

L6 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1987:168145 HCAPLUS  
DOCUMENT NUMBER: 106:168145  
TITLE: Adsorption chromatography on PLOT (porous-layer open-tubular) columns: a new look at the future of capillary GC

AUTHOR(S): De Zeeuw, J.; De Nijs, R. C. M.; Henrich, L. T.

CORPORATE SOURCE: Chrompack Int., Middelburg, 4310 EA, Neth.

SOURCE: Journal of Chromatographic Science (1987), 25(2), 71-83

CODEN: JCHSBZ; ISSN: 0021-9665

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The applicability of highly efficient PLOT columns is described.

Capillary columns coated with Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, and the mol.

sieve types 5 Å and 13X are evaluated, and a number of

applications are given. Because of their unique retention

characteristics, these adsorption materials are suited for very specific and difficult seps. Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> are used for the determination of low concns.

of C1-C10 hydrocarbons; mol. sieve type 5 Å has a

unique retention for permanent gases; and mol. sieve

type 13X gives a very specific separation of naphthenes from paraffins, which

simplifies the identification of naphthas. The characteristics and uses

of these PLOT columns now and in the future are discussed.

L6 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2007 ACS ON STN  
 ACCESSION NUMBER: 1986:555079 HCAPLUS  
 DOCUMENT NUMBER: 105:155079  
 TITLE: Molecular sieves as catalysts for preparation of 1,1,2-trichloroethane  
 INVENTOR(S): Juhl, Roger L.; Johnson, Mark S.; Morris, Thomas E.  
 PATENT ASSIGNEE(S): Dow Chemical Co., USA  
 SOURCE: U.S., 2 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO.     | DATE     |
|--|------|----------|---------------------|----------|
| US 4608601   | A    | 19860812 | US 1982-437711      | 19821029 |
| PRIORITY APPLN. INFO.:   |      |          | US 1982-437711      | 19821029 |
| OTHER SOURCE(S):   |      |          |                     |          |
| AB   |      |          | CASREACT 105:155079 |          |
| (I) with zeolites are catalysts for the chlorination of 1,1-dichloroethane |      |          |                     |          |
| (II) with Cl in a fluidized bed to yield 1,1,2-trichloroethane (II).       |      |          |                     |          |
| Unreacted I is separated from II and recycled. The chlorination is carried |      |          |                     |          |
| out at 100-350° (preferably 110-200°), 0.1-30 s (preferably                |      |          |                     |          |
| 1-3 s) residence time, and 1:1-10 molar ratio Cl-I. Reaction of 2.0:1      |      |          |                     |          |
| 1-Cl (molar ratio) at 165° and 1.6 s residence time over <24-52            |      |          |                     |          |
| mol. sieve resulted in 100% Cl conversion per pass, 45%                    |      |          |                     |          |
| I conversion per pass, and 60-83% selectivity to II. The major byproduct   |      |          |                     |          |
| (28.34% selectivity) is vinyl chloride.                                    |      |          |                     |          |

L6 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2007 ACS ON STN  
 ACCESSION NUMBER: 1969:421679 HCAPLUS  
 DOCUMENT NUMBER: 71:21679  
 ORIGINAL REFERENCE NO.: 71:3977a, 3980a  
 TITLE: Vinyl halide production by dehydrohalogenation of dihalogenated hydrocarbons  
 PATENT ASSIGNER(S): Pullman Inc.  
 SOURCE: Brit., 10 pp.  
 CODEN: BRXXAA  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE | APPLICATION NO. | DATE     |
|---|------|------|-----------------|----------|
| GB 1152021  |      |      |                 |          |
| PRIORITY APPLN. INFO.:  |      |      |                 |          |
| AB  |      |      | US 19690514     | 19650830 |
| The title process is carried out by mixing the dihalohydrocarbon component with an inert diluent having a larger mol. dimension than the pore opening of the catalyst used and than the reactant, and dehydrohalogenating the dihalohydrocarbon at 260° in the presence of an |      |      |                 |          |
| aluminosilicate catalyst having a pore size >6 Å. and formed by a   |      |      |                 |          |
| 12-membered ring. Thus, 12 g. Na faujasite with pore size .apprx.13 Å.  |      |      |                 |          |
| was calcined 12 hrs. in N at 350°, cooled to 315°, and held   |      |      |                 |          |
| at this temperature while a preheated gaseous mixture of N and  |      |      |                 |          |
| 1,2-dichloroethane  |      |      |                 |          |
| (I) was passed over the catalyst at a space velocity of 9.6 g./hr./g.   |      |      |                 |          |

catalyst. The space velocity of the N was 2.9 ml./min./ml. catalyst at the reaction temperature. When temperature equilibrium was obtained, the reaction was run for 3 hrs. at 315° with I contact time of .apprx.1.2 sec. The condensate from this reaction contained I 289, vinyl chloride (II) 30.9, and HCl 16 g. Conversion was 14% and II selectivity 98%. Conversion was increased without affecting selectivity by recycling unreacted I. The presence of 1,1-dichloroethane or chloral did not affect the results. Ca faujasite and H mordenite were also used as catalysts. These catalysts have good chemical stability, selectivity for the desired product, activity, and life.

L6 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2007 ACS ON STN  
 ACCESSION NUMBER: 1968:402310 HCAPLUS  
 DOCUMENT NUMBER: 69:2310  
 ORIGINAL REFERENCE NO.: 69:431a, 434a  
 TITLE: Elimination reaction of hydrogen chloride from 1,1,2-trichloroethane on ion exchange molecular sieves  
 AUTHOR(S): Mochida, Isao; Yoneda, Yukio  
 CORPORATE SOURCE: Univ. Tokyo, Tokyo, Japan  
 SOURCE: Journal of Organic Chemistry (1968), 33(5), 2161-3  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB MeCHCl2, ClCH2CH2Cl, MeCCl3, Cl2CHCH2Cl (I) and Cl2CHCHCl2 are dehydrochlorinated in the presence of mol. sieves containing the following cations: H, Mg++, Li+, Ca++, Na+, and K+. I gives a mixture of CH2:CCl2 (II), and trans-ClCH:CHCl (trans-III), and cis-ClCH:CHCl (cis-III). In the elimination of HCl from I on the mol. sieves, the trans-/cis-III ratio increases as the II-III ratio is increased.

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(FILE 'HOME' ENTERED AT 19:19:06 ON 13 NOV 2007)

FILE 'REGISTRY' ENTERED AT 19:19:29 ON 13 NOV 2007

STRUCTURE UPLOADED

50 S L1 SSS FULL

0 S L2 AND PURIFICATION

FILE 'HCAPLUS' ENTERED AT 19:20:40 ON 13 NOV 2007

240 S L2 AND PURIFICATION

0 S L4/PRP

14 S L2 AND MOLECULAR (A) SIEVE